Hand operated garlic root trimmer made from a hedge shear

By Allen Dong, PO Box 413, Veneta Oregon 97487
https://sites.google.com/view/low-tech-farm-tools

This invention was declared public domain on August 7, 1999 --a gift to humanity.
No copyright

After garlic bulbs are harvested and dried, the roots and tops are trimmed off with pruning shears, scissors or knives. A hand operated garlic trimmer is made using a hedge shear attached to a cutting board (Figures 1 and 2). The long handle on the hedge shear provides extra leverage compared to pruning shears. The handle is lifted upward at an angle to press the cutting blades together as the shear closes. This assist in cutting the foliage and roots rather than folding the plant material over the blade. The garlic trimmer can also cut corncobs.

Construction of the garlic trimmer is as follows:

First, select your hedge shear carefully. Look for a hedge shear with blades that are ground with a slight curve (e.g. Corona model HS 3911). When such shear is fully shut, the curvature can be seen as a gap between the two blades near the pivot end, while the distal end is closed tightly. The curved blades allow the cutting edges of the two blades to press against each other continuously as the shear closes and to cut rather than fold plant materials over the blade. Serrated and wavy blades keep the material from slipping as the shear closes.

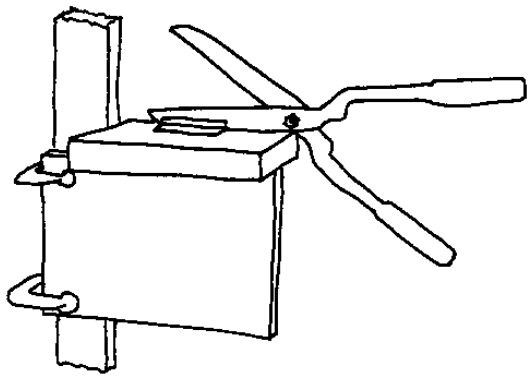
Next, weld a steel angle (1 ¼ x 1 ¼ x 3/16 inch thick, 3 ½ inches long) on one of the blades, depending on your preference for left or right-handed operation. The welding requires some care. Usually, blades are heat treated only near the cutting edge to harden it, while the bulk of the blade remains unbrittle. Precaution must be taken to avoid altering this blade edge hardness; avoid over heating the edge. One way is by using low hydrogen E7018 welding electrode with DC+ electrode polarity. The steel angle is welded at the distal end of the blade to keep the heat-affected zone of the weld away from the cutting edge near the pivot. Alternatively, the steel angle can be brazed with oxy acetylene, using a very small torch tip. The cutting edge of the blade can be clamp to a heavy iron vice to conduct the heat away from the edge. Lining the vice jaws with multi folded layers of aluminum foil increases the thermal conductivity between blade and vice.

Lastly, drill two ¼ inch diameter holes, 2 ½ inches apart on the 1 ¼ face of the steel angle and bolt the hedge shear to a cutting board with 1/4-inch diameter bolts. The cutting board is made from a 2 x 8-inch board, 10 inches long. Secure the cutting board to a tabletop with C clamps or secure to a post with a mounting bracket and C clamps.

If the garlic trimmer were to be manufactured, the hedge shear would be made with countersunk bolt holes on both blades. This would permit the hedge shear to be bolted on to a cutting board for both left- or right-handed.

Materials:
- 1 hedge shear
- 1 steel angle 1 ¼ x 1 ¼ x 3/16 inch thick, 3 ½ inches long
- 1 nominal 2 x 8-inch board, 10 inches long, used as a cutting board
- 2 ¼ x 1 ½ inch bolts and nuts.
- C clamp, 4-inch jaw

Optional post mounting bracket:
- ¾ x 10 x 12-inch plywood
- 1 ¼ x 1 ¼ x 3/16-inch steel angle, 12 inches long
- ¼ x 1 ½ inch long bolts and nuts.
- ½ x 2-½ inch bolts.



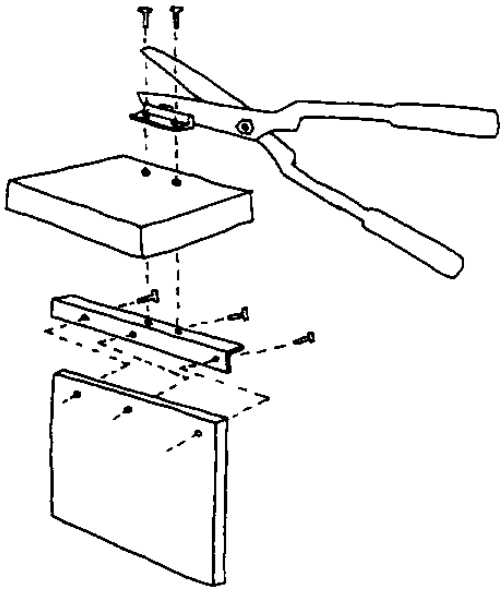


Figure 1. Garlic trimmer clamped to post and Figure 2. Exploded view of Garlic trimmer with optional post mounting bracket.

Note: Mention of product name does not imply endorsement.

Acknowledgement: Technical assistance from Roger J. Edberg, University of California, Santa Cruz, and William Chancellor, Emeritus professor, University of California, Davis.